



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,172	05/05/2004	Heinz Willebrand	81699	7495
22242	7590	08/08/2005	EXAMINER	
FITCH EVEN TABIN AND FLANNERY 120 SOUTH LA SALLE STREET SUITE 1600 CHICAGO, IL 60603-3406			PHAN, HANH	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 08/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/840,172

Applicant(s)

WILLEBRAND ET AL.

Examiner

Hanh Phan

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/11/2005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 05/11/2005.

Double Patenting

2. nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-38 of U.S. Patent No. 6,763,195 (Willebrand et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-45 of the instant application are encompassed by claims 1-38 of U.S. Patent No. 6,763,195 (Willebrand et al).

Regarding claims 1, 8, 15, 25, 35 and 41, Willebrand (US Patent No. 6,763,195) discloses a method for use in free-space communications, comprising the steps of:
transmitting data in an active mode in an optical signal through a free-space optical path of a communication link extending across a terrestrial free-space region;

detecting degradation of the optical signal in the terrestrial free-space region; and
automatically switching from the active mode to a standby mode upon optical
beam degradation in the terrestrial free-space region, wherein the standby mode
includes transmitting data in a radio frequency (RF) signal through a free-space RF path
of the communication link;

wherein an RF transceiver for generating the RF signal is active during the active
mode (see claims 1-8 and 34-38 of US Patent No. 6,763,195).

Regarding claims 2, 9, 16-21, 26-31, 36-38, 42 and 43, Willebrand (US Patent
No. 6,763,195) discloses further comprising the step of: communicating control and
status information in the RF signal through the free-space RF path of the
communication link (see claims 1-6 and 34-38 of US Patent No. 6,763,195).

Regarding claims 3, 10, 22 and 32, Willebrand (US Patent No. 6,763,195)
discloses wherein the step of detecting degradation of the optical signal in the terrestrial
free-space region comprises the step of: sensing a characteristic of a received optical
signal (see claims 4-8 of US Patent No. 6,763,195).

Regarding claims 4 and 11, Willebrand (US Patent No. 6,763,195) discloses
wherein the characteristic of the received optical signal comprises a power level of the
received optical signal (see claims 6 and 7 of US Patent No. 6,763,195).

Regarding claims 5 and 12, Willebrand (US Patent No. 6,763,195) discloses
wherein the characteristic of the received optical signal comprises a transmissive
capability of the received optical signal (see claim 8 of US Patent No. 6,763,195).

Art Unit: 2638

Regarding claims 6, 13, 23, 33, 39 and 44, Willebrand (US Patent No. 6,763,195) discloses further comprising the step of: using the characteristic of the received optical signal to calculate a power adjustment for a station at an opposite end of the communication link (see claims 12 and 13 of US Patent No. 6,763,195).

Regarding claims 7, 14, 24, 34, 40 and 45, Willebrand (US Patent No. 6,763,195) discloses wherein the degradation of the optical signal is due to atmospheric conditions in the terrestrial free-space region (see claims 1-8 of US Patent No. 6,763,195).

4. Claims 1-45 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,889,009 (Willebrand). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-45 of the instant application are encompassed by claims 1-7 of U.S. Patent No. 6,889,009 (Willebrand).

Regarding claims 1, 8, 15, 25, 35 and 41, Willebrand (US Patent No. 6,889,009) discloses a method for use in free-space communications, comprising the steps of:

transmitting data in an active mode in an optical signal through a free-space optical path of a communication link extending across a terrestrial free-space region;
detecting degradation of the optical signal in the terrestrial free-space region; and
automatically switching from the active mode to a standby mode upon optical beam degradation in the terrestrial free-space region, wherein the standby mode

Art Unit: 2638

includes transmitting data in a radio frequency (RF) signal through a free-space RF path of the communication link;

wherein an RF transceiver for generating the RF signal is active during the active mode (see claims 1-7 of US Patent No. 6,889,009).

Regarding claims 2, 9, 16-21, 26-31, 36-38, 42 and 43, Willebrand (US Patent No. 6,889,009) discloses further comprising the step of: communicating control and status information in the RF signal through the free-space RF path of the communication link (see claims 1-7 of US Patent No. 6,889,009).

Regarding claims 3, 10, 22 and 32, Willebrand (US Patent No. 6,889,009) discloses wherein the step of detecting degradation of the optical signal in the terrestrial free-space region comprises the step of: sensing a characteristic of a received optical signal (see claims 1-7 of US Patent No. 6,889,009).

Regarding claims 4 and 11, Willebrand (US Patent No. 6,889,009) discloses wherein the characteristic of the received optical signal comprises a power level of the received optical signal (see claims 1-7 of US Patent No. 6,889,009).

Regarding claims 5 and 12, Willebrand (US Patent No. 6,889,009) discloses wherein the characteristic of the received optical signal comprises a transmissive capability of the received optical signal (see claims 1-7 of US Patent No. 6,889,009).

Regarding claims 6, 13, 23, 33, 39 and 44, Willebrand (US Patent No. 6,889,009) discloses further comprising the step of: using the characteristic of the received optical signal to calculate a power adjustment for a station at an opposite end of the communication link (see claims 1-7 of US Patent No. 6,889,009).

Regarding claims 7, 14, 24, 34, 40 and 45, Willebrand (US Patent No. 6,889,009) discloses wherein the degradation of the optical signal is due to atmospheric conditions in the terrestrial free-space region (see claims 1-7 of US Patent No. 6,889,009).

5. Claims 1-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-28 of copending Application No. 10/646,994 (Willebrand et al). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-45 of the instant application are encompassed by claims 1-28 of copending Application No. 10/646,994 (Willebrand et al).

Regarding claims 1, 8, 15, 25, 35 and 41, Willebrand (copending Application No. 10/646,994) discloses a method for use in free-space communications, comprising the steps of:

- transmitting data in an active mode in an optical signal through a free-space optical path of a communication link extending across a terrestrial free-space region;
- detecting degradation of the optical signal in the terrestrial free-space region; and
- automatically switching from the active mode to a standby mode upon optical beam degradation in the terrestrial free-space region, wherein the standby mode includes transmitting data in a radio frequency (RF) signal through a free-space RF path of the communication link;

wherein an RF transceiver for generating the RF signal is active during the active mode (see claims 1-15 of copending Application No. 10/646,994).

Regarding claims 2, 9, 16-21, 26-31, 36-38, 42 and 43, Willebrand (copending Application No. 10/646,994) discloses further comprising the step of: communicating control and status information in the RF signal through the free-space RF path of the communication link (see claims 1-15 of copending Application No. 10/646,994).

Regarding claims 3, 10, 22 and 32, Willebrand (copending Application No. 10/646,994) discloses wherein the step of detecting degradation of the optical signal in the terrestrial free-space region comprises the step of: sensing a characteristic of a received optical signal (see claims 1-15 of copending Application No. 10/646,994).

Regarding claims 4 and 11, Willebrand (copending Application No. 10/646,994) discloses wherein the characteristic of the received optical signal comprises a power level of the received optical signal (see claims 1-15 of copending Application No. 10/646,994).

Regarding claims 5 and 12, Willebrand (copending Application No. 10/646,994) discloses wherein the characteristic of the received optical signal comprises a transmissive capability of the received optical signal (see claims 1-15 of copending Application No. 10/646,994).

Regarding claims 6, 13, 23, 33, 39 and 44, Willebrand (copending Application No. 10/646,994) discloses further comprising the step of: using the characteristic of the received optical signal to calculate a power adjustment for a station at an opposite end of the communication link (see claims 1-15 of copending Application No. 10/646,994).

Regarding claims 7, 14, 24, 34, 40 and 45, Willebrand (copending Application No. 10/646,994) discloses wherein the degradation of the optical signal is due to atmospheric conditions in the terrestrial free-space region (see claims 1-15 of copending Application No. 10/646,994).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-5, 7-12, 14-22, 24-32, 34-38, 40-43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vollerts (DE 4433896 cited by applicant) in view of Sato (US Patent No. 4,904,993 cited by applicant) and further in view of Mullaly et al (US Patent No. 6,812,881 cited by applicant).

Regarding claims 1, 8, 15, 25, 35 and 41, referring to Figure 1, Vollert discloses a method for use in free-space communications, comprising the steps of:

transmitting data in an active mode in an optical signal through a free-space optical path (i.e., free space optical path IUS, and see abstract) of a communication link extending across a terrestrial free-space region;

detecting degradation of the optical signal in the terrestrial free-space region (Vollert teaches that during exchange of information, the quality of the infrared transmission is verified continuously and the result determines whether the radio or the infrared link is utilized, see abstract section of Vollert).

Vollert differs from claims 1, 8, 15, 25 and 41 in that he does not specifically teach switching from the active mode to a standby mode upon optical beam degradation in the terrestrial free-space region, wherein the standby mode includes transmitting data in a radio frequency (RF) signal through a free-space RF path of the communication link and wherein an RF transceiver for generating the RF signal is active during the active mode. However, Sato in US Patent No. 4,904,993 teaches switching from the active mode to a standby mode upon optical beam degradation in the terrestrial free-space region, wherein the standby mode includes transmitting data in a radio frequency (RF) signal through a free-space RF path of the communication link (Fig. 1, col. 2, lines 25-40) and Mullaly in US Patent No. 6,812,881 teaches an RF transceiver for generating the RF signal is active during the active mode (see Figs. 2b and 2c, col. 9, lines 17-64). Therefore, it would have been obvious to one having skill in the art at the time the invention to incorporate the switching from the active mode to a standby mode upon optical beam degradation in the terrestrial free-space region, wherein the standby mode includes transmitting data in a radio frequency (RF) signal through a free-space RF path of the communication link and an RF transceiver for generating the RF signal is active during the active mode as taught by Sato and Mullaly in the system of Vollert. One of ordinary skill in the art would have been motivated to do this since Sato suggests in

Art Unit: 2638

column 2, lines 25-40 that using such the switching from the active mode to a standby mode upon optical beam degradation in the terrestrial free-space region, wherein the standby mode includes transmitting data in a radio frequency (RF) signal through a free-space RF path of the communication link and Mullaly suggests in column 9, lines 17-64 that using such the RF transceiver for generating the RF signal is active during the active mode have advantage of allowing providing reliable communications in the weather conditions and providing a dual-mode (both optical and RF transmission).

Regarding claims 2, 9, 16-21, 26-31, 36-38, 42 and 43, the combination of Vollert, Sato and Mullaly teaches further comprising the step of: communicating control and status information in the RF signal through the free-space RF path of the communication link (see Figs. 7b and 8b of Mullaly and col. 12, lines 25-61).

Regarding claims 3, 10, 22 and 32, the combination of Vollert, Sato and Mullaly teaches wherein the step of detecting degradation of the optical signal in the terrestrial free-space region comprises the step of: sensing a characteristic of a received optical signal (see abstract of Vollert and Fig. 1 of Vollert).

Regarding claims 4 and 11, the combination of Vollert, Sato and Mullaly teaches wherein the characteristic of the received optical signal comprises a power level of the received optical signal (Fig. 1 of Vollert).

Regarding claims 5 and 12, the combination of Vollert, Sato and Mullaly teaches wherein the characteristic of the received optical signal comprises a transmissive capability of the received optical signal (Fig. 1 of Vollert).

Art Unit: 2638

Regarding claims 7, 14, 24, 34, 40 and 45, the combination of Vollert, Sato and Mullaly teaches wherein the degradation of the optical signal is due to atmospheric conditions in the terrestrial free-space region (Fig. 1 of Vollert).

Allowable Subject Matter

8. Claims 6, 13, 23, 33, 39 and 44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the double patenting rejection.

Response to Arguments

9. Applicant's arguments with respect to claims 1-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

Art Unit: 2638

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER